

Claims

1. A temperature sensitive polymer having a lower critical solution temperature that changes during incubation in an aqueous solution or medium, which polymer is a homo or interpolymer of a (N-(2-hydroxypropyl) methacrylamide lactate).
2. The polymer according to claim 1, wherein said N-(2-hydroxypropyl) methacrylamide lactate is N-(2-hydroxypropyl) methacrylamide dilactate or N-(2-hydroxypropyl) methacrylamide monolactate.
3. The polymer according to claim 1, wherein the lower critical solution temperature before incubation is below mammalian body temperature and the lower critical solution temperature after incubation is above mammalian body temperature.
4. The polymer of claim 3, wherein the mammalian body temperature is human body temperature.
5. A controlled release system comprising a temperature sensitive polymer of claim 1 and an active ingredient.
6. The controlled release system of claim 4, wherein the polymer is in the form of a polymeric micelle comprising a hydrophilic block.
7. The controlled release system of claim 6, wherein the hydrophilic block comprises poly(ethyleneglycol).
8. The controlled release system of claim 5 or 6, wherein the system is in the form of a hydrogel.
9. The controlled release system of claim 5 or 6, wherein the hydrogel is an ABA block copolymer, wherein block A is the temperature sensitive polymer of claim 1 and block B is a hydrophilic polymer.

10. The controlled release system of claim 9, wherein block B is PEG.
11. A targeting drug composition, comprising a drug and particles of a controlled release system according to claim 5, wherein the particles have an average diameter of less than 100 nm.
12. The targeting drug composition of claim 9 further comprising a homing device.